

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 3-9, 12, 14-19, and 21-23 are presently active in this case, Claims 1, 3, 7, 9, 12, 14, 19, and 23 having been amended by way of the present Amendment. Claims 2, 10, 11, 13, 20, 24, and 25 have been canceled without prejudice or disclaimer.

In the outstanding Official Action, Claim 12 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicants submit that Raman amplifiers are devices known to one of ordinary skill in the art, and that the boundary of this phrase is known to those of ordinary skill in the art. The Applicants further submit that it is unnecessary to add precise structural details of the Raman amplifier in the claim in order to clarify the meaning thereof. The Applicants note that the "[b]readth of a claim is not to be equated with indefiniteness." (See MPEP 2173.04.) Accordingly, the Applicants submit that Claim 12 is definite under 35 U.S.C. 112, second paragraph, and therefore the Applicants respectfully request the withdrawal of the indefiniteness rejection.

Claims 1 and 12 were rejected under 35 U.S.C. 102(b) as being anticipated by Scifres et al. (U.S. Patent No. 4,820,010). Claim 12 was rejected under 35 U.S.C. 102(b) as being anticipated by WO 9836479 A1 to Aida et al. (English equivalent is U.S. Patent No. 6,172,803 B1). For the reasons discussed below, the Applicants request the withdrawal of the anticipatory rejections.

Claims 1 and 12 have been amended to recite, among other features a plurality of densely placed laser diode modules mounted on a mounting portion, and a plurality of heat

pipes thermally connected to the mounting portion, where the plurality of heat pipes have a heat absorbing portion and a heat radiating portion with heat radiating fins.

The Applicants submit that neither the Scifres et al. reference nor the Aida reference disclose a plurality of heat pipes. Additionally, these references do not disclose heat pipes having a heat absorbing portion and a heat radiating portion with heat radiating fins. Neither of these references describes any particular devices for temperature control, and these references certainly do not disclose the plurality of heat pipes recited in Claims 1 and 12. Thus, the Applicants respectfully request the withdrawal of the anticipation rejections of Claims 1 and 12.

Claims 2-9, and 12-23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shimasue et al. (JP 63-302584) in view of Idei (JP 10-200208). For the reasons discussed below, the Applicants request the withdrawal of the obviousness rejection.

The basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. Furthermore, the proposed modification cannot change the principle of operation of a reference.

The Applicants submit that a *prima facie* case of obviousness cannot be established in the present case because the references, either taken singularly or in combination, do not teach or suggest all of the claim limitations.

Claim 3 of the present application recites, among other features, a plurality of laser diode modules, and a heat pipe having a heat absorbing portion and a heat radiating portion with heat radiating fins. Claim 5 recites, among other features, a plurality of laser diode modules, a plurality of heat pipes each having a heat absorbing portion and a heat radiating portion, and a mounting portion having the plurality of laser diode modules mounted thereon and holes configured to receive heat absorbing portions of the plurality of heat pipes along a lengthwise direction of a respective one of the plurality of laser diode modules. Claim 12 recites, among other features a plurality of densely placed laser diode modules mounted on a mounting portion, and a plurality of heat pipes thermally connected to the mounting portion, where the plurality of heat pipes have a heat absorbing portion and a heat radiating portion with heat radiating fins. And, Claim 19 recites, among other features, a plurality of laser diode modules and a plurality of heat pipes each having a heat absorbing portion extending within a mounting portion and a heat radiating portion extending from a side of the mounting portion, wherein the mounting portion has holes configured to receive heat absorbing portions of the plurality of heat pipes along a lengthwise direction of a respective one of the plurality of laser diode modules.

The Applicants submit that neither the Shimasue et al. reference nor the Idei reference disclose a plurality of laser diode modules, as recited in Claims 3, 5, 12, and 19 of the present application. Additionally, these references do not disclose the combination of a plurality of laser diode modules with one or more heat pipes. Since these references, either singularly or in combination, fail to disclose all of the limitations recited in Claims 3, 5, 12, and 19, then the Applicants submit that a *prima facie* case of obviousness cannot be established with

respect to these claims. Thus, the Applicants respectfully request the withdrawal of the obviousness rejections of Claims 3, 5, 12, and 19.

Claim 9 of the present application recites, among other features, a heat pipe having a heat absorbing portion and a heat radiating portion with heat radiating fins, a mounting portion having a laser diode module mounted thereon, and a plurality of heat radiating fins provided on a bottom surface of the mounting portion. Claim 14 recites, among other features, at least one heat pipe having a first portion extending within a mounting portion and a second portion with heat radiating fins extending from a side of the mounting portion, and a plurality of heat radiating fins provided on a bottom surface of the mounting portion. And Claim 23 recites, among other features, at least one heat pipe having a first portion extending within a mounting portion and a second portion with heat radiating fins extending from a side of the mounting portion, and a plurality of heat radiating fins provided on a bottom surface of the mounting portion.

The Applicants submit that neither the Shimasue et al. reference nor the Idei reference disclose a heat pipe having a portion with heat radiating fins or a plurality of heat radiating fins provided on a mounting portion, as recited in Claims 9, 14, and 23 of the present application. Additionally, these references also do not disclose the combination of a heat pipe having a portion with heat radiating fins or a plurality of heat radiating fins provided on a mounting portion. Since these references, either singularly or in combination, fail to disclose all of the limitations recited in Claims 9, 14, and 23, then the Applicants submit that a *prima facie* case of obviousness cannot be established with respect to these claims. Thus, the Applicants respectfully request the withdrawal of the obviousness rejections of Claims 9, 14, and 23.

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Claims 4 and 6-8 are considered allowable for the reasons advanced for Claim 3 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed, taught, nor suggested by the applied references when those features are considered within the context of Claim 3.

Claims 15-18, 21, and 22 are considered allowable for the reasons advanced for Claim 14 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed, taught, nor suggested by the applied references when those features are considered within the context of Claim 14.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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